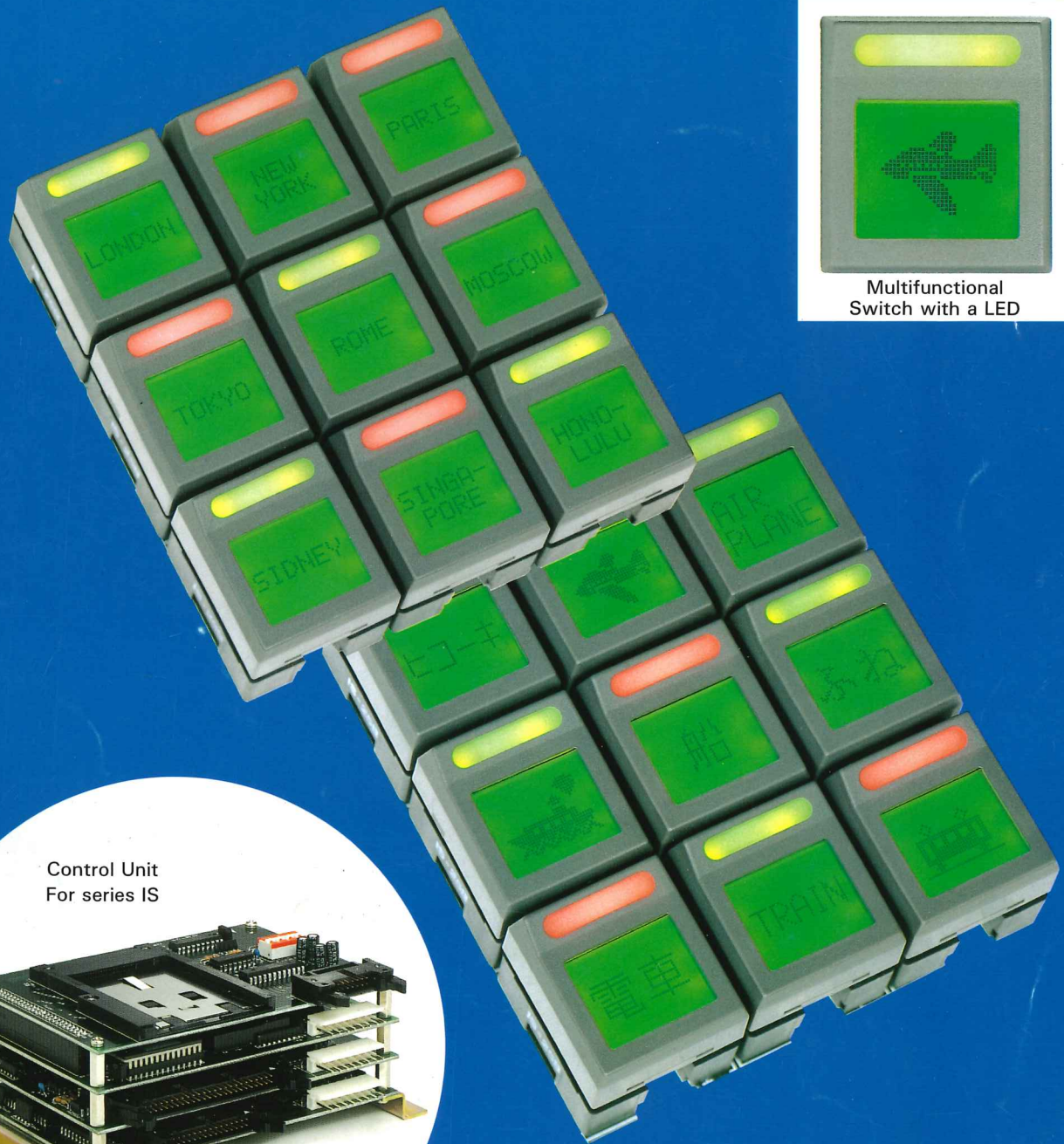NKK **nikkai**

● **Man-Machine Interface**

INTELLIGENT
by Pictures/Characters
SWITCHES

series IS

Multifunctional
Switch with a LED

Control Unit
For series IS

NIHON KAIHEIKI IND. CO., LTD.

Switch for Interfacing with Computer

The Multifunctional Intelligent switch displays the flow of information in sequence with images such as a moving images, still images, symbols, and characters such as Numeric, Japanese, Chinese, Alphabetic and other Foreign language characters. The switch, series IS, is very easy to use and is suitable for selecting the necessary information from a broad range of data.

IS-15AG2JP4   IS-25BG2MP4   IS-25CG2NP4

PAT. PEND

13.99 (36Dots)
0.34   0.05
9.31 (24Dots)   0.05   0.34

Features of series IS

1. A clear easy-to-operate large LCD window.
2. LCD consisting of 864 (36 × 24) dots
   - Characters such as a Numeric, Japanese, Alphabetic and Other Foreign language characters can be displayed max. 18 characters consist of 6 each in 3 lines
   - Chinese characters can be displayed max. 6 characters
   - Both moving and still Images or Markings can be displayed
3. The Bi-colour Signal LEDs enabling the classification of input and output informations.
4. The Bi-colour Backlightings on LCD also enhancing the classification of input and output informations as above and of enabling multifunctional use.
5. Super-structure provided on the switch body enables the side-by-side vertical and horizontal mountings, with the help of inter-connector (AT-542).
6. Replaceable Keytop enables easy maintenance when the mechanical troubles were happened or the LCD lifetime is exhausted. [Optional Tool (Extractor) will be soon available.]

Multifunctional Switch with a LCD

The number of switches used is not equal to the amount of information which the switches display.
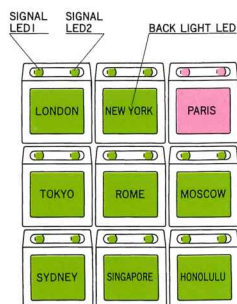
When 9 switches are used:
- $9^{2+1}=729$ types of information can be retrieved by 2 switching operations
- $9^{3+1}=6,561$ types of information can be retrieved by 3 switching operations

The Bi-colour Signal LEDs built-in the top of the Key and for Back-lighting, enabling the combination of different colours to enhance the switch functions twice or six times more and to control vast amounts of information. (No Signal LEDs are available on IS-25C types)

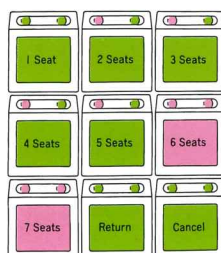## Application Example: Air-Ticket Booking Machine

SIGNAL LED1   SIGNAL LED2   BACK LIGHT LED

LONDON NEW YORK PARIS
TOKYO ROME MOSCOW
SYDNEY SINGAPORE HONOLULU

[1st Page/Destinations]

	Available	Sold Out
Back Light LED	Green	Red
Signal LED 1 (Left)	Green	Red
Signal LED 2 (Right)	Green	Red

JAL DLH UAL
NWA AFR BAW
SIA DAL KLM
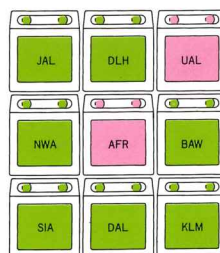
[2nd Page/Airline Companies]

	Available	Sold Out
Back Light LED	Green	Red
Signal LED 1 (Left)	Green	Red
Signal LED 2 (Right)	Green	Red

First Class Business Class Economy Class

Return Cancel

3rd Page/ Class & Numbers of availability

	Available	Sold Out
Back Light LED	Green	Red
Signal LED 1 (Left)	Green	Red
Signal LED 2 (Right)	Green	Red

1 Seat 2 Seats 3 Seats
4 Seats 5 Seats 6 Seats
7 Seats Return Cancel

[4th Page/Numbers of Seat]

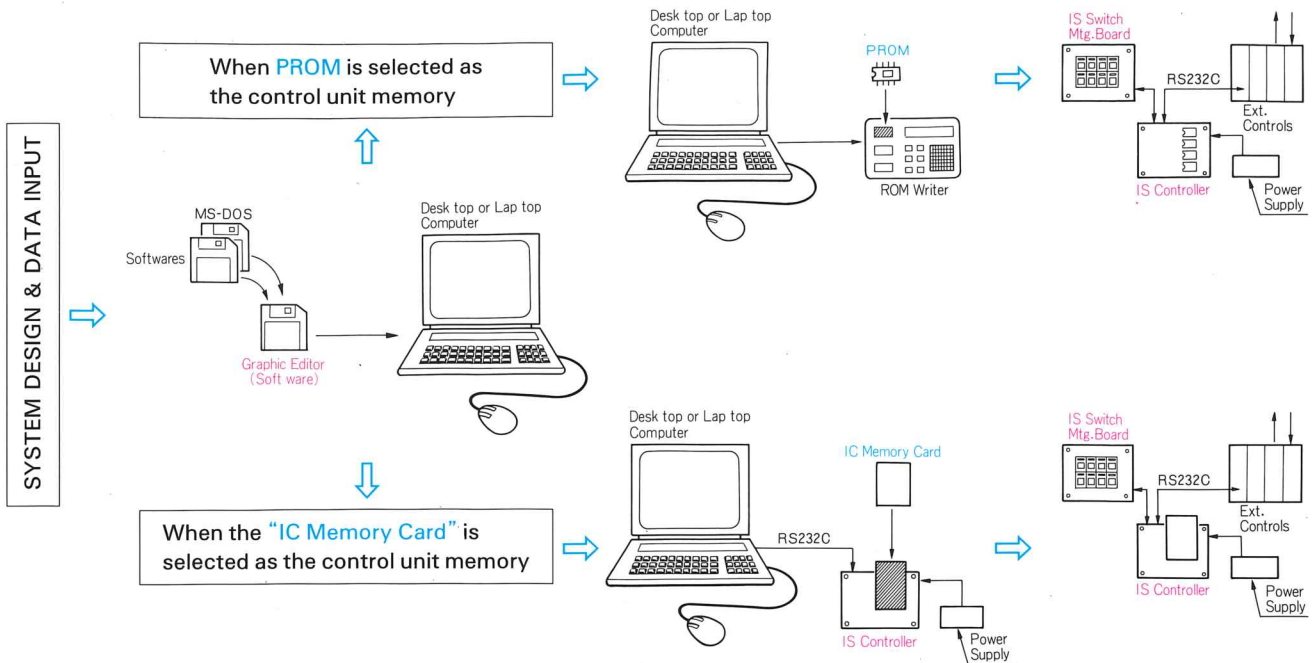|	Available	Sold Out
Back Light LED (Ticket)	Green	Red
Signal LED 1 (Left) (No Smoking)	Green	Red
Signal LED 2 (Right) (No Smoking)	Green	Red

4th Page in left is telling a status that if a client needs more than 2 seats of "Business Class" on JAL flight for London, "No Smoking Seats" are not available but "Smoking Seats" are available. [A "No Smoking Seat" is available too.]

NKK nikkai

SYSTEM NETWORK EXAMPLES

When PROM is selected as the control unit memory

When the "IC Memory Card" is selected as the control unit memory

SYSTEM DESIGN & DATA INPUT

① Determine the "Contents" to be controlled and to be displayed on the LCD screen of the Keytop to meet with the customer's applications.

② Convert the determined "Contents" into "Data" to be input by Laptop Computer (NEC·PC-9800 series or IBM·PS/2 family) through the Software for Graphic Editor

③ Transfer the "Data", to the IC Memory Card or PROM

④ Connect the "External Control Units", namely MPU, PC, PLC, & etc., and then start the system

▶ *nikkai's* "IS Controller" does not include followings, since those materials shall be selected and prepared according to customer's applications

— Software of MS-DOS, IC Memory Card and/or PROM, ROM Writer, Power Supply Unit and IS switch Mounting Boards

IS Controllers for Easier Operations

The IS Controller is the "Interface Unit" among Laptop Computer as above ②, Control Units as above ④ and IS switches to control followings:

— Control the pictures and/or characters on the LCD display of keytop by input data from Laptop Computer or signals reversed from Control Units.

— Control the phase of Signal LEDs (bi-coloured) and/or Colours of Backlighting LEDs (also bi-coloured) by input data from the same

— Control the process by preliminarily input programme through the Control Units with the help of commands from IS switches

IS-CUIC1
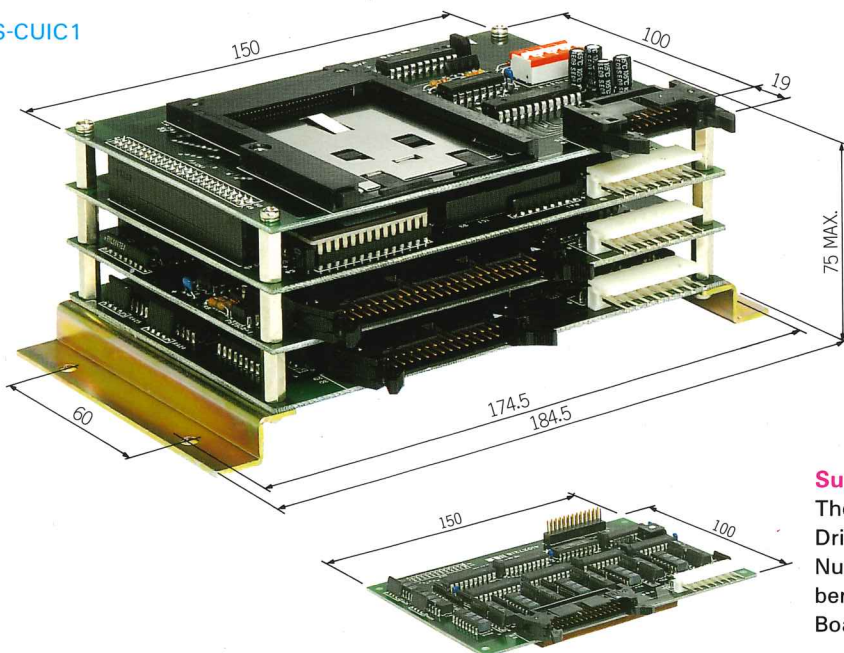
The IS Controller is composed of 4 pcs. of PCB as main frame. And a Micro Floppy Disc containing the Software for Graphic Editor is available as option.

Numbers of IS switches per type can be controlled by "LED Driving Board" (inclusive) are as under:
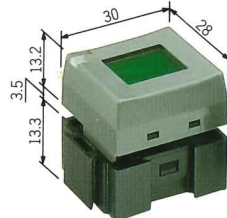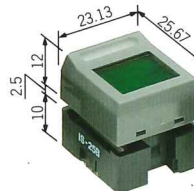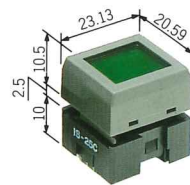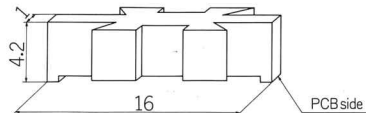
IS-15A type : 12 pcs.
IS-25B type : 8 pcs.
IS-25C type : 24 pcs.

▶ Supplementary LED Drive Board is available as option for controls the additional numbers of IS switches.
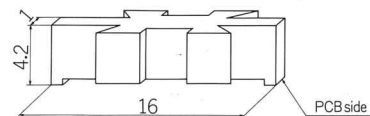
Supplementary LED Drive Board (Option)
There are two different types of additional LED Driving Boards, one to be used as the "Odd Number's" and the other for the "Even Number's". For control 16 pcs. of IS-25B, additional Board for "Odd Number's" shall be annexed.

SPECIFICATIONS

MODEL		IS-15AG2JP4	IS-25BG2MP4	IS-25CG2NP4
SWITCH UNIT	CIRCUIT	SP·ST	N/O & N/C	
	CONTACT RATING	100mA 12V DC (Resistive Load)		
DISPLAY UNIT	DOT FORMAT	36 × 24 Dots (Horizontal × Vertical)		
	DOT SIZE	0.34mm × 0.34mm		
	BACKLIGHT LED	Bi-coloured (Green/Red)		
	SIGNAL LED	Bi-coloured (Green/Red) 1 pc.	Bi-coloured (Green/Red) 2 pcs.	Nil.
OPERATING TEMPERATURE RANGE		0～+40℃		
INTER-CONNECTOR (Option)		〔Features〕 1.A Bi-colour Signal LED (Green/Red) is prepared on the top of the key. 2.A Bi-colour Backlighting is built-in for more functions on the operation. 3.Super-structure provided on the switch body enables the "Side-by-side" Vertical or Right Angle mountings.	**AT-542** Inter-Connector This is to connect the Concave part of switch body and Convex Part of this Inter-Connector (AT-542) for Side-By-Side mounting.	

Main Applications

Telephone Exchange system, Traffic Intelligent Control system, Dealing system, Education system, Automatic Vending Machine, Automatic Ticketing Machine, Control Panel for NC Machining Center, Broadcasting Control system, POS/Electronic Cash Register & etc.

Subject to change without preliminary notice